ER Site No. 11: Explosive Burial Mounds

ADS: 1334
Operable Unit: Central Coyote Test Area

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Site History

Environmental Restoration (ER) Site 11 is located on the north side of Isleta Road, approximately 800 feet (ft) east of the intersection of Lovelace Road and Isleta Road on the southern portion of Kirtland Air Force Base (KAFB). This inactive site was identified as the Radioactive Explosive Burial Mounds in the Module IV Resource Conservation and Recovery Act (RCRA) Part B Permit (Hazardous and Solid Waste Amendments Module) and consisted of three fenced areas (FA-1, -2, and -3) enclosing a total of five debris mounds and associated surface depressions. The site encompasses approximately 1.56 acres enclosed by the three fenced areas. The fences were posted with radiation and explosive hazard warning signs.

FA-1 (approximately 130 by 160 ft) contained two debris mounds and two surface depressions. An old, rusted signal box was on the west side of the fenced area. FA-2 (approximately 60 by 145 ft) contained two debris mounds; a surface depression is just to the east of the fence. FA-3 (approximately 170 by 100 ft) contained one large debris mound and an associated surface depression.

Available evidence suggests that the debris mounds were constructed prior to 1947. The debris mounds were already in place when the earliest ER Site 11 aerial photographs were taken in 1951. When interviewed, some Sandia National Laboratories / New Mexico (SNL/NM) employees reported that the mounds had been present for as long as they had worked at SNL/NM, with the earliest employment date going back to 1947. Fencing around FA-2 and FA-3 was installed sometime after 1951 since it first appears in 1967 aerial photos. Sometime in 1992 or 1993, FA-1 was fenced, and the fences around the other two areas were replaced. Later aerial photographs do not show indications of any further activities, so it is likely the site has not been disturbed since 1967.

Some interviewees suggested that burn testing was performed at ER Site 11. There was no visible field evidence to support this assertion. Burial mound 2 appears to be a circular berm enclosing a shallow depression and may have been used for open burn/open detonation

(OB/OD). Metal shrapnel present on and around the berm might represent "kick-out" from OB/OD operations.

ER Site 11 was identified during investigations conducted under the Comprehensive Environmental Assessment and Response Program (CEARP) and the RCRA Facility Assessment (RFA). During both of these investigations it was unclear whether radioactive material or unexploded ordinance / high explosives (UXO/HE) debris was buried in the debris mound at the site. Radioactive and explosive hazards signs were posted at that time. During the CEARP investigation, a SNL/NM radiometric survey of the debris mounds showed no surface radiation levels above background activity.

Although radioactive hazard signs were posted around the site, several surface radiation surveys performed by both SNL and KAFB Explosive Ordinance Disposal (EOD) did not find any radiation above background levels on the site. In January 1992, SNL/NM Radiation Protections Operations (RPO) personnel conducted another surface beta/gamma radiation survey at the site using a Geiger-Müller detector with a pancake probe. At that time, FA 1 was not fenced, and the FA 2 and FA 3 fences were in disrepair. The circular depression in FA 1 was surveyed, and no readings were measured above background activity. When FA 2 and FA 3 were surveyed around the debris mound perimeters and inside the fences, no readings above background activity were measured. Sometime in 1992 or 1993, FA 1 was fenced, and the fences of the other two areas were replaced.

In December 1993, KAFB EOD conducted a visual UXO/HE survey and radiation scan of the site surface and a subsurface metal detector survey of the site. No radiation was detected above background activity, but UXO/HE debris was visible in the debris mounds, and a considerable amount of subsurface metal was detected using the metal detector.

A Voluntary Corrective Measure (VCM) was performed at ER Site 11 between June and August 1996. All the debris mounds were carefully excavated and field screened for radioactivity and volatile organic compounds (VOC). The total volume of the ER Site 11 burial mounds was approximately 77,600 cu-ft (2874 cu yd). The mounds consisted of ordnance debris cleared from the Workman Site (ER Site 57A). All ordnance debris was removed and either cleared for waste disposal or destruction by the KAFB EOD Unit. All fencing materials and other debris were removed from the site. The remaining soil was sampled, and following SNL/NM waste management approval, was graded back onto the site and the surface was seeded.

Constituents of Concern

Metals
Semivolatile Organic Compounds (SVOCs)

Current Hazards

There are no current hazards at this site related to contamination of the surface or subsurface soils. UXO may be present in this area of the Central Coyote Test Area resulting from munition testing activities at Site 57A, immediately to the west.

Current Status of Work

The RFI work plan was submitted to the EPA in November 1994.

A VCM to remove the debris piles was performed from July to August of 1996. This VCM included excavation and removal of the mounds and sorting and removal of ordnance debris. The VCM and confirmatory sampling is complete. A risk-based no further action (NFA) was submitted to the regulatory authorities in September 1997. The NFA included a description of VCM activities. In December 1999, New Mexico Environmental Department (NMED) indicated that the site was appropriate for NFA. The NFA was approved by NMED in October 2000 after completing the public review and permit modification process.

Future Work Planned

No additional work is planned.

Waste Volume Estimated/Generated

The VCM mentioned above generated one 55-gallon drum of nonhazardous debris.

Information for ER Site 11 was last updated Jan 29, 2003.